AUDIONET

PAM G2 & EPC

Phono Preamplifier
&
External Power Controller

User's Manual

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1 Preface

The Audionet Team congratulates you on your purchase of these units.

Audionet components are no marketing products, they are authentic. Conceived and developed with scientific inspiration, professional engineering expertise and a passion for achieving the perfect sound. They are unique creations designed to inspire musical enjoyment and have an excellent reputation amongst all connoisseurs throughout the world. Each and every one of our precision-manufactured devices are individually crafted at our Bochum works by our experienced and passionate workforce.

But before you start listening to your new Audionet PAM G2 and EPC, please read this manual carefully so you are able to use and enjoy all functions of these units without drawback on music quality.

1.1 Included

Included you will find the following items:

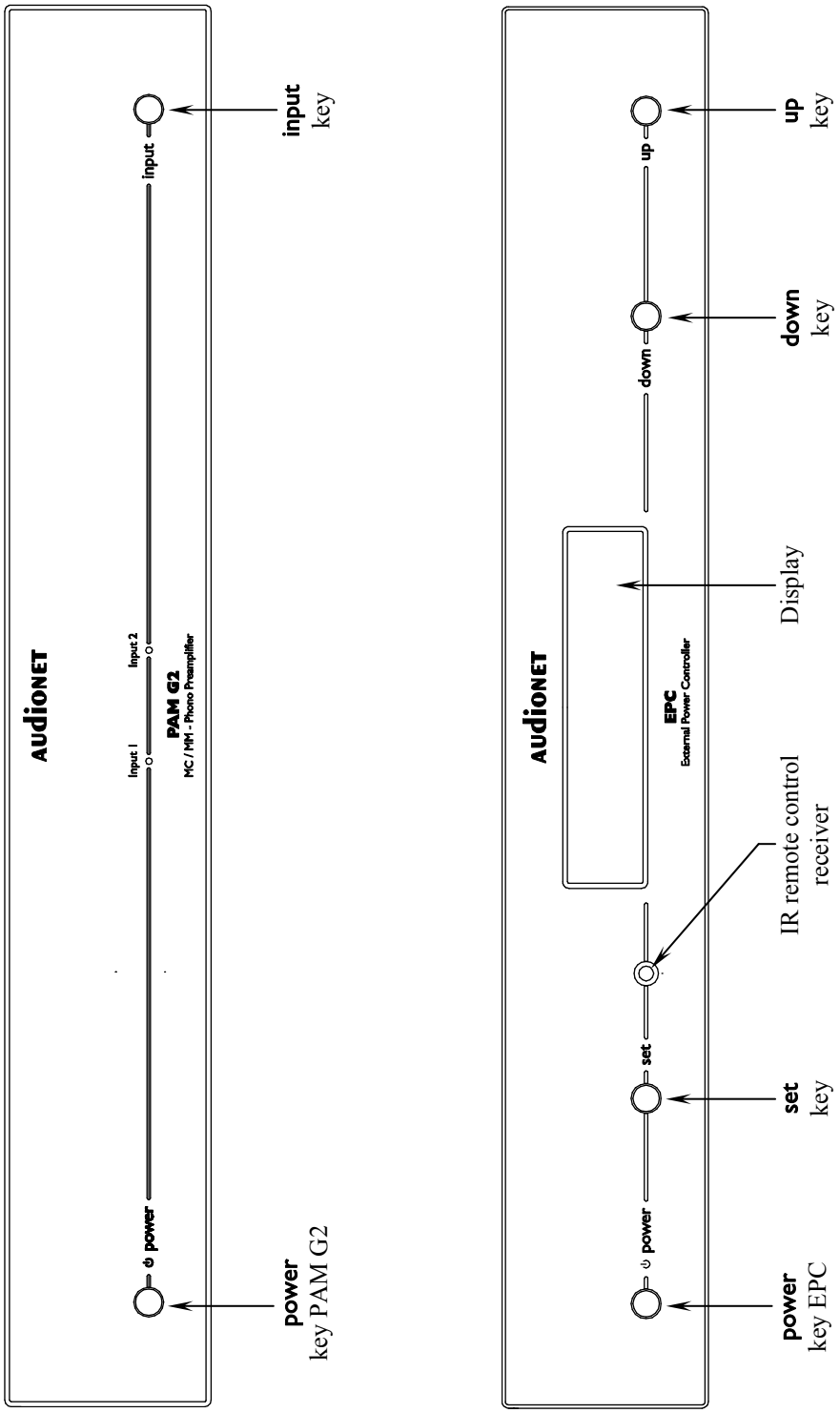
- the phono preamplifier PAM G2
- the external power controller EPC
- the user's manual (that you are currently reading)
- one EPS/EPC connection cable (7-pin)
- one or two DB-25 connection cables (depending on the number of input channels of the PAM G2)
- one standard mains cord
- one green-yellow cord for an additional earth connection

1.2 Transport

Important

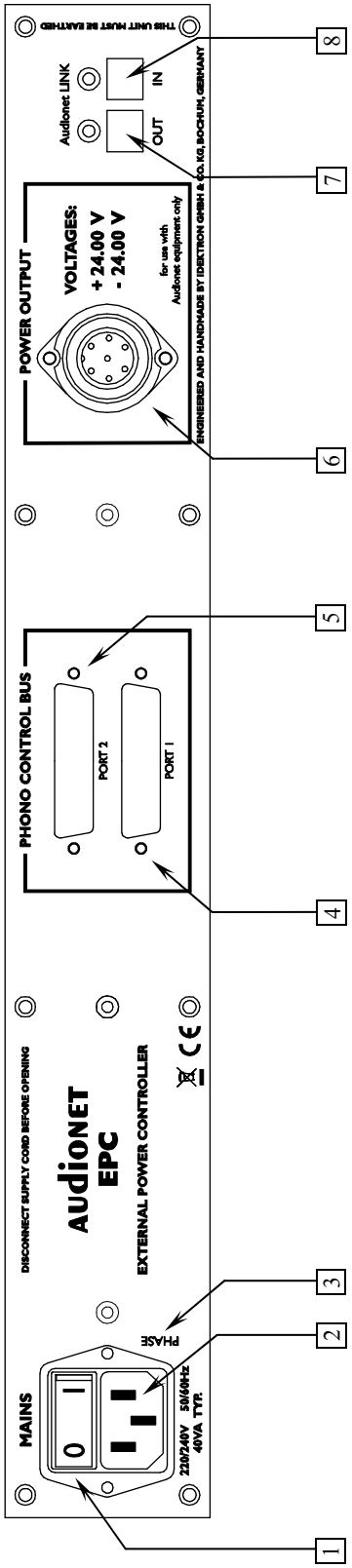
- Please transport the PAM G2 and EPC only in the included packages.
- Always use the provided cloth bags to prevent scratches on the casing.
- Please allow the PAM G2 and EPC to adapt to the climatic conditions in your listening room before you switch on the units for the first time after transport.

2 Overview front panels



3 Overview back panels

3.1 EPC back panel



1 Phono Control Bus socket, input 2

2 7-pin connector

3 Audionet Link Out

4 Audionet Link In

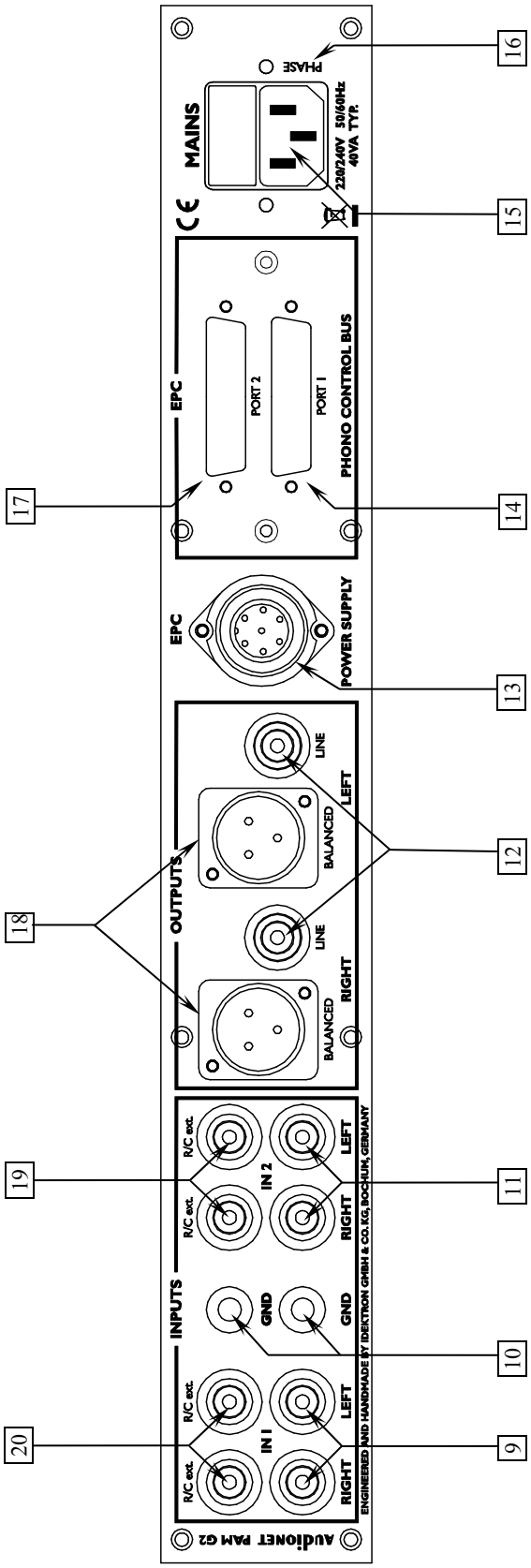
5 Mains switch EPC

6 Mains input EPC

7 Marking mains phase EPC

8 Phono Control Bus socket, input 1

3.2 PAM G2 back panel



9 RCA input no. 1, left/right

10 Earth connectors for turntables

11 RCA input no. 2, left/right

12 RCA output, left/right

13 7-pin EPC connector

14 Phono Control Bus socket, input 2

15 Mains input PAM G2

16 Marking mains phase PAM G2

17 Phono Control Bus socket, input 2

18 Balanced (XLR) output, left/right

19 RCA input for additional input resistance or input capacitance on input 2, left/right

20 RCA input for additional input resistance or input capacitance on input 1, left/right

4 Installation and power supply

Important

- **For connecting or removing the EPC to/from the PAM G2, both units and all other units of your audio system have to be switched off to prevent damage of any of these devices.**
- **Please make sure that all cables are in absolute best conditions! Broken shields or short-cut cables could damage the units.**

4.1 Placement

Important

- Place the EPC to the right or at least 20 cm above/below of the PAM G2.
- It is recommended to place the EPC and PAM G2 into a high quality rack or onto a stable table.
- Do not expose the units to direct sunlight.
- Do not cover the ventilation slots.
- Do not place the EPC or PAM G2 in close range to heat sources like radiators.
- Do not place the EPC or PAM G2 on top of other units, especially not on top of power amplifiers, preamplifiers or similar that produce heat. The units could suffer damage from thermal overload.
- Do not use the units in places where it is exposed to vibrations.
- Do not place the units close to loudspeakers or into the corner of a room where it is exposed to high levels of sonic energy, which might reduce the sound quality of the units.

4.2 Mains connection

The mains input 2* is on the back panel of the EPC. To connect the unit to mains use the included mains cord. If you prefer to use a different power cord make sure that it meets the specifications for your home country.

* see numbers in section '*Overview back panel*' on page 8.

Important

- Do not connect the PAM G2 to mains! This would compromise the quality of audio performance. The power supply of the PAM G2 is provided by the EPC via the 7-pin EPS/EPC cable. Use only **one** mains cord to connect the EPC to mains. For this reason, only one mains cord is included.

Important

- The electrical specifications of your home country must meet the electrical specifications printed onto the back panel.
- The EPC is a Class I unit and must be earthed. Please ensure a stable earth connection. Phase ('hot' pin) is marked on the back panel ("PHASE") 10
- Never pull the mains plug while the EPC is switched on! Before you pull the mains cord off its socket 2 at the back panel, power down the unit to stand-by mode and switch off the unit using mains switch 1.

Only in cases of extended absence – like vacations – or if massive trouble on the mains power is to be expected you should switch off the EPC from the mains using the mains switch 1. To disconnect the unit completely from mains pull the mains plug.

Tip

- The use of high quality mains cords (e.g. Audionet P10) could improve sound quality. Ask your local dealer for more information.

4.3 Connection of EPC & PAM G2

For the connection of the EPC and PAM G2, a 7-pin EPC/EPS connection cable and one or two DB25 cables are needed (depending on the input channels of the PAM G2). A schematic of the connected devices can be found on page 13.

To connect both units, follow these steps:

1. Make sure both PAM G2 and EPC are switched off and disconnected from the mains.
2. Connect the EPC and PAM G2 with the included 7-pin EPC/EPS connection cable from socket 6 of the EPC to the corresponding socket 13 on the back panel of the PAM G2. The shape of the plug prevents any wrong polarity.

3. Now connect the Phono Control Bus of the EPC and PAM G2. If your PAM G2 is equipped with one input channel, connect socket 4 at the rear of the EPC with the appropriate socket 14 of the PAM G2 using the included DB25 cable.
   If your PAM G2 has a second input channel, connect socket 5 at the rear of the EPC with the appropriate socket 15 of the PAM G2 using the second included DB25 cable (see section "*Connection diagram*" on page 13).
4. Connect **only** the EPC to mains.
5. Switch on the EPC at the back panel first.
6. Use key **power** at the front panel of the EPC / PAM G2 or the keys **Power On** or **Power Toggle** *) of the Audionet System Remote Control Harmony Ultimate One to switch on the EPC. Both, EPC and PAM G2 are now ready to use.
7. To switch off the EPC into stand-by mode, use the key **power** on the front panel of the EPC / PAM G2 or **Power Off** or **Power Toggle** *) of the Audionet System Remote Control Harmony Ultimate One.

Important

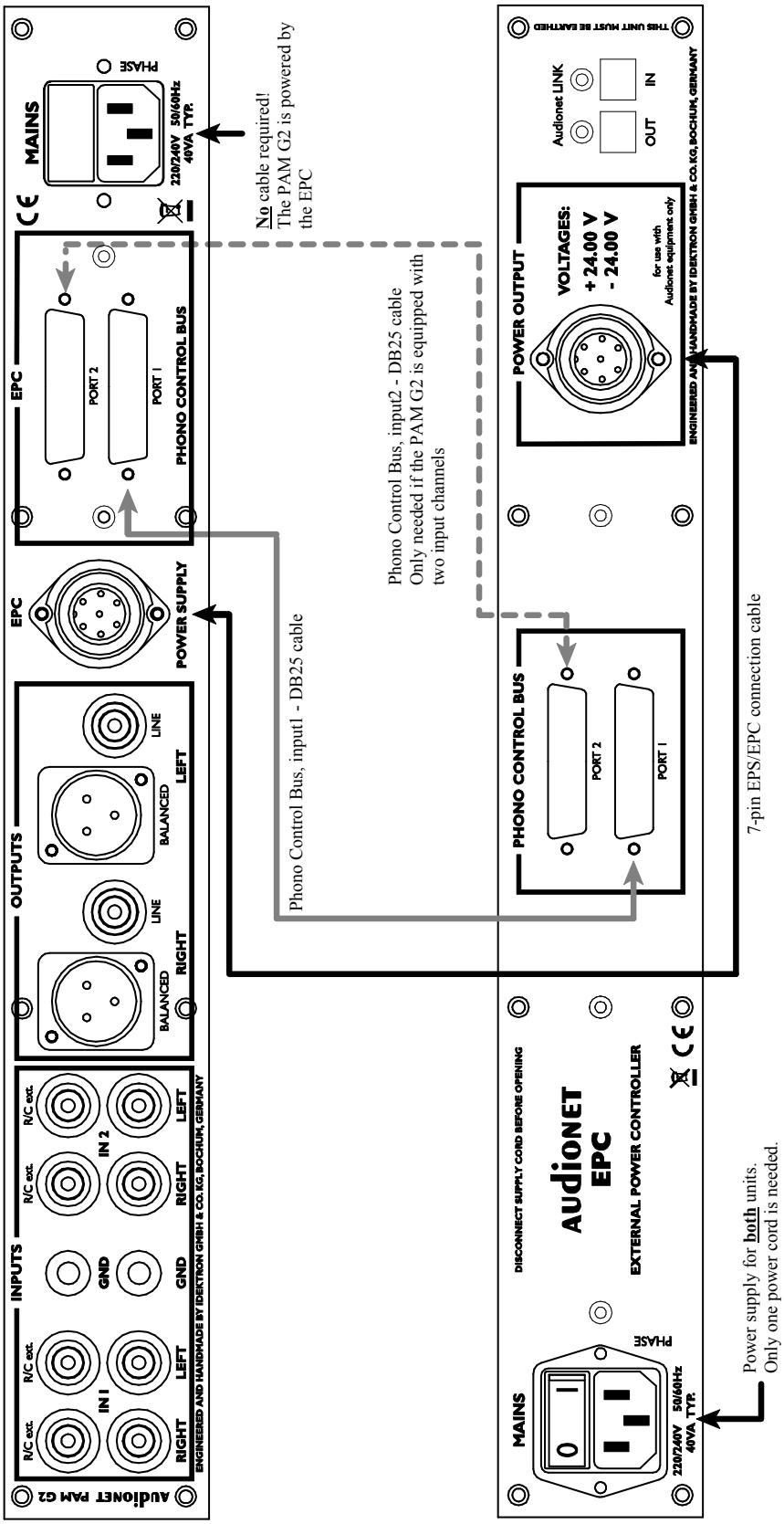
- Never switch on or off the EPC on its back panel while the PAM G2 is switched on.

Tip

- Place the EPC to the right or at least 20 cm above/below of the PAM G2. Increasing the distance of both units, will minimize the influence of the mains transformers in the EPC.
- Use a high quality cable (for example the Audionet P10) to connect the EPC to mains. The sound will improve.

*) or use a corresponding Activity that you customized on your *Harmony Ultimate One* (see separate user's manual to the *Harmony Ultimate One*).

4.4 Connection diagram



4.5 Audionet Link

For your convenience, the EPC can be controlled remotely by one of Audionet's multi channel preamplifiers (e.g. MAP or MAP 1) as well as one of Audionet's stereo preamplifiers (e.g. PRE G2, PRE 1 G3) using the Audionet Link interface.

You only need a optical 'Toslink' cable to connect the Audionet Link output of your Audionet preamplifier to the Audionet Link input **IN** [8] of the EPC.

In case you would like to automatically switch on/off further Audionet units in your system using the Audionet Link interface, please connect the Audionet Link output **OUT** [7] of your EPC to the Audionet Link input of the next Audionet unit (e.g. power amplifier, tuner, CD player etc.) using a simple 'Toslink' cable.

Note

- The 'switch on' signal is issued to any further Audionet units daisy chained to the Audionet Link output of your EPC with a little delay to avoid all units switching on at the same moment, which could cause an overload of your mains fuse.

5 Inputs and outputs

Important

- **During connecting and removing of turntables or preamplifiers to the PAM G2 all units of your audio system have to be switched off to prevent damage of the PAM G2 or any of the other connected units.**
- **Please make sure that all cables are in absolute best conditions! Broken shields or short-cut cables could damage the PAM G2 and/or any other connected unit.**

5.1 Inputs

The PAM G2 has two stereo line inputs 9 and 11 to connect two pick-up arms or turntables. The maximal adjustable input capacitance is 420 pF and the minimal adjustable input resistance is 100 Ω. If other values are needed to meet the electrical characteristic of the pick up, the RCA sockets **C/R** EXT. 19 and 20 can be used to add external resistors or capacitors (see section '*Further adjustments*' on page 34).

The gold plated screws (GND) 10 are for connecting the turntable grounds.

Note

- The PAM G2 is optionally available with one or two input channels. Depending on the model, one or two pick-up arms or turntables can be connected.

5.2 Outputs

The PAM G2 is equipped with one RCA output **LINE** 12 as well as one balanced (XLR) output **BALANCED** 18 for the left and right channel to connect the unit to your preamplifier.

Use the RCA output **LINE** 12 to connect the PAM G2 to your pre-amplifier using high quality interconnectors (e.g. Audionet C100). Alternatively, you may connect the pre-amplifier using the balanced (XLR) outputs **BALANCED** 18 in case your preamplifier does not support RCA (line) inputs.

6 Operating

6.1 Powering up

First of all, please make sure your EPC and PAM G2 are connected correctly (see section '*Mains connection*' on page 10 and '*Connection of EPC & PAM G2*' on page 11).

The EPC is a stand-by unit. Please operate the mains switch [1] on the back panel. The display shows a welcome message for a brief moment. After that the EPC is in stand-by mode.

Only in cases of extended absence (like vacations) or if massive trouble on the mains power is to be expected (e.g. thunder storms) it is recommended to disconnect the EPC from the mains. While the EPC is in stand-by mode, operate mains switch [1] on the back panel. To disconnect the EPC from mains completely, you have to pull the mains cord off the mains socket [2].

Important

- **Never pull the mains plug while the EPC and PAM G2 are switched on! Before you pull the mains cord off its mains socket [2], power down the EPC to stand-by mode and switch off the unit using mains switch [2] at the back panel.**

6.2 Switching on and off

To power up the EPC from stand-by mode, press the **power** key on the front panel of the EPC / PAM G2. The EPC displays the message **`Waking up...`**. In case the mains plug has the incorrect polarization a warning will appear in the display (see section '*Mains phase detection*' on page 17). After that the EPC and the connected PAM G2 are in normal operating mode and ready to use.

If you would like to switch off the EPC and the PAM G2, please press the **power** key on the front panel of the EPC / PAM G2. The display shows the message **`Going to sleep. ..`** and the EPC enters the stand-by mode. The connected PAM G2 is also turned off.

Note

- You can also use the **power** key on the front panel of the PAM G2 to switch both units on or off.
- Of course, you may switch on/off the EPC with the Audionet System Remote Control *Harmony Ultimate One*. For detailed information please refer to section '***Audionet System Remote Control***' on page 21.

6.3 Mains phase detection

The correct polarization of mains is important for reasons of audio clarity and stability. Please connect the mains cord that the 'hot' pin of the wall outlet is connected to the pin marked '**phase**' 3 of the mains input 2 on the back panel. The EPC recognizes the incorrect polarization of the mains plug automatically. Right after switching on the unit from stand-by mode by pressing the **power** key on the front panel of the EPC / PAM G2 the following message will appear in the display in case the mains polarization is incorrect:

```
►       Attention:      ◄
► Mains phase incorrect ◄
```

If you read the above message, switch off the unit by pressing the **power** key. Please wait until the display no longer reads `Going to sleep...`. Disconnect the EPC from mains by operating the mains switch 1. Now pull the mains plug and re-insert it into the mains socket rotated by 180°.

If you switch on the unit again, the warning should not appear now.

Important

- If the EPC issues the mains polarization warning or no warning at all for both positions of the mains plug, check the connection to earth of your mains socket and mains cord. **You have to ensure a stable connection to earth for the mains phase detection of the EPC to work correctly!**

6.4 Using Audionet Link

If your EPC is connected to an Audionet preamplifier via Audionet Link, use the remote control of the preamplifier to automatically switch on/off the EPC (and all other Audionet units also connected via Audionet Link).

For setting up the necessary connections please refer to section '*Audionet Link*' on page 14.

Note

- If you switch off your Audionet chain using Audionet Link, it is important to wait until **all** devices are shut down before you restart the system.
- Independently from the Audionet Link interface, you can switch on/off your EPC manually at any time by using the **power** key on the front plate of EPC, PAM G2 or the remote control.

6.5 Control elements on the front panels

6.5.1 PAM G2 control elements

The front panel has two keys to control the PAMG2 (see section '*Overview front panels*' on page 7).

power Use this key to switch on/off the unit.

input Push this key to select the input channel.

Note

- The two keys on the PAM G2 front panel are designed for the usage without the EPC. Nevertheless they keep their functionality when an EPC is connected to the PAM G2.

6.5.2 EPC control elements

The front panel has four keys to control the EPC and thus the PAM G2 (see section '*Overview front panels*' on page 7). With these keys you can control all functions as well as all setup options to adjust the unit to your preferences (see section '*Setup menu*' on page 25).

power Switch on /off the unit (see section '*Switching on and off*' on page 16).

set Push the key shortly to navigate through the setup menu. Keep the key pushed for longer than two seconds to exit the setup menu (see section '*Setup menu*' on page 25).

down Press the key once to select input 1 of the connected PAM G2 (see section '*Input selection*' on page 20) or change an option of the setup menu (see section '*Setup menu*' on page 25).

up Press the key once to select input 2 of the connected PAM G2 (see section '*Input selection*' on page 20) or change an option of the setup menu (see section '*Setup menu*' on page 25).

Important

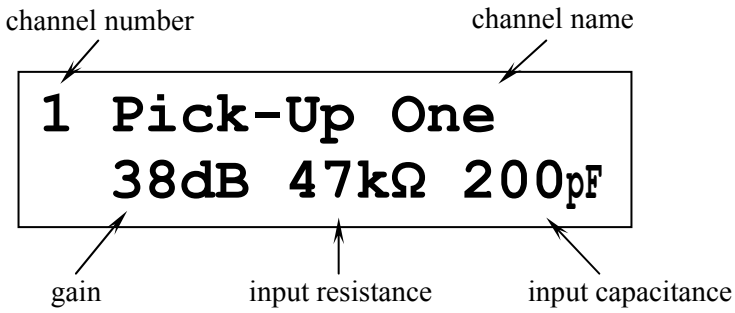
- If your PAM G2 is equipped with just one input channel, switching the channel using the **up** key of the EPC or **input** key of the PAM G2 is disabled as only **Input 1** is available.

6.6 Display

In the normal operating mode the display provides information about the current settings of the connected PAM G2. You can choose among three different formats.

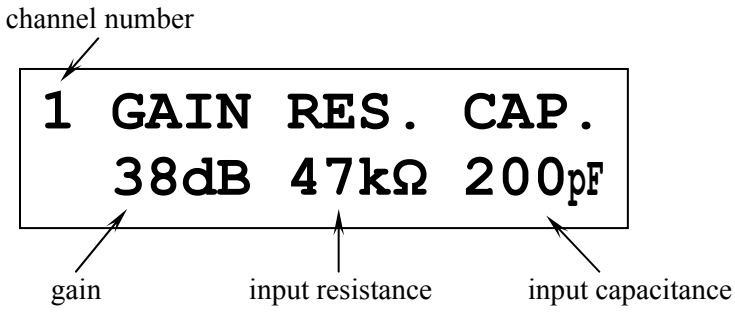
a) `Set Display: Name & Values`

This is the default setting on delivery of the EPC. The display shows the number of the currently selected PAM G2 input channel, the fully user-definable channel name and its settings.



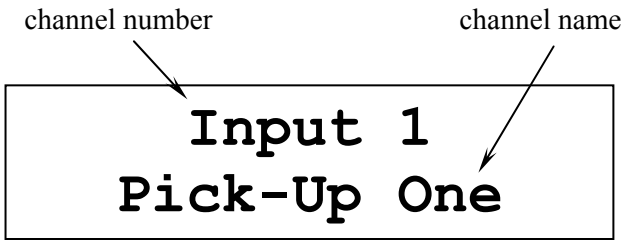
b) `Set Display: Values only`

The display shows the number of the currently selected PAM G2 input channel and its settings.



c) **`Set Display: Name only`**

The display shows the number of the currently selected PAM G2 input channel and the fully user-definable channel name



As soon as you enter the setup menu by pushing the **set** key, the display changes to show information related to the selected menu item. For further display details refer to the description of each menu item in section '*Setup menu*' starting from page 25.

Note

- After 10 minutes without any user interaction the 'display saver' is invoked automatically. The display then shows only the number and the name of the currently selected input channel. Please refer to section '*Set Dim Level*' on page 29 for further information on the 'display saver' mode.

6.7 Input selection

Push the key **up** or **down** on the front panel of the EPC, to select the desired input channel of the PAM G2. Push the **down** key to select **Input 1** and the **up** key for **Input 2**.

Important

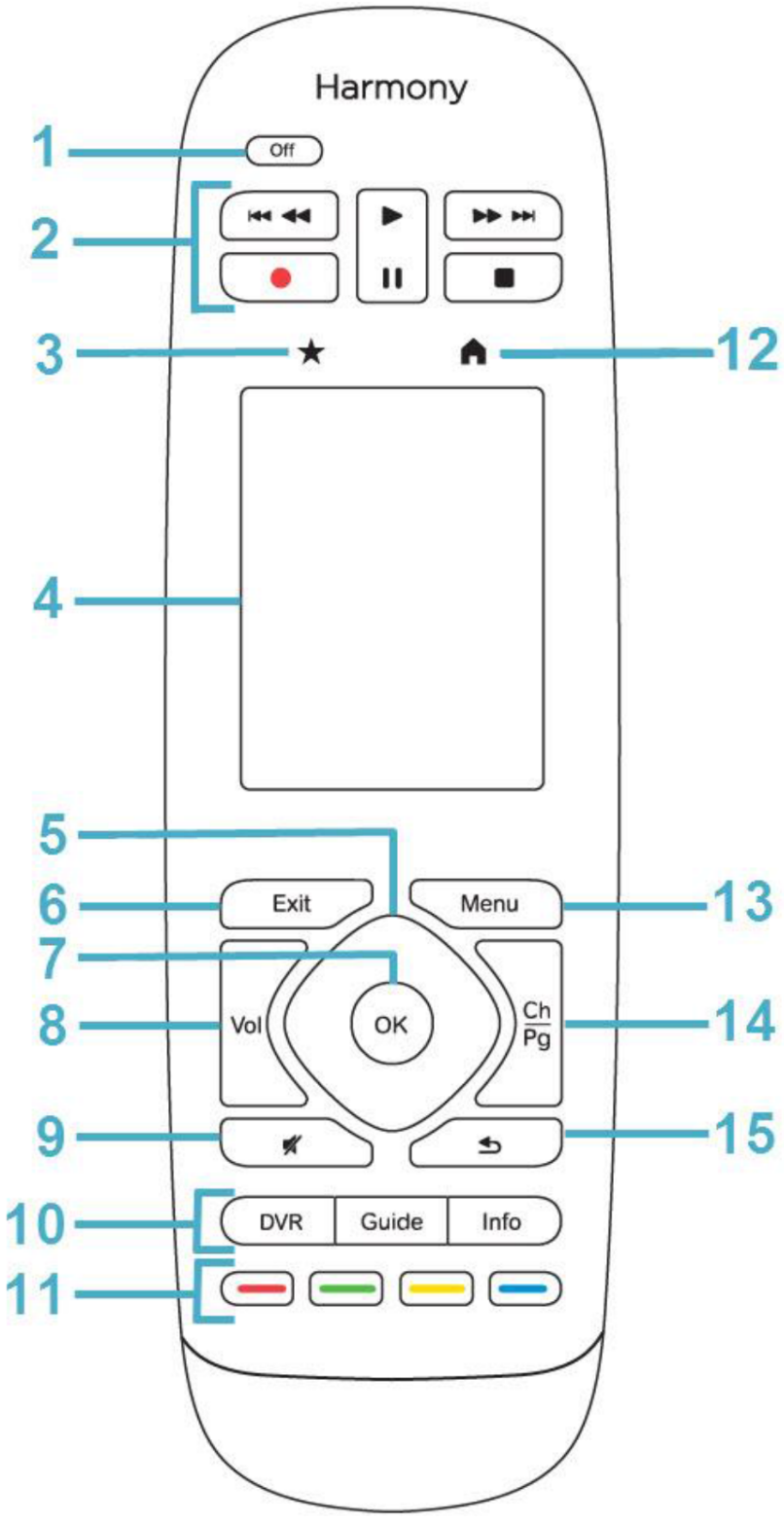
- If your PAM G2 is equipped with only one channel, the input selection is disabled and channel switching is not possible. In this case, only **Input 1** is available.

Note

- You can also use the **input** key on the front panel of the PAM G2 to select the active input channel.
- Using the Audionet System Remote Control *Harmony Ultimate One*, select an input channel by simply pressing the corresponding key (see section '*Audionet System Remote Control*' on page 21), or use the keys **Vol+** and **Vol-** to switch between the two input channels.

7 Audionet System Remote Control

In combination with the EPC all functions and settings of the PAM G2 are accessible via the Audionet System Remote *Harmony Ultimate One*. Additionally, up to 14 other devices can be controlled by the *Harmony Ultimate One*.



7.1 Key assignment Harmony Ultimate One

No.	Key	Function
1	**Off**	For switching off the current activity, long key stroke (>10sec) to switch remote controlon or off
2	**Play Pause Stop**	Not assigned
2	**REC**	Not assigned
2	⏮ ⏭	Not assigned
2	⏪ ⏩	Not assigned
3	★	Favourites: see manual Logitech; for EPC not relevant
4		Touch screen, functions as labelled
5		Not assigned
6	**Exit**	Not assigned
7	**OK**	Not assigned
8	**Vol +** **Vol -**	Selects input of the connected PAM G2, also for selecting setup options. These keys have the same function as keys **up** and **down** on the EPC front panel.
9	🔇	Not assigned
10	**DVR** **Guide** **Info**	With EPC only key Info is used: Activates the function 'Show'
11		Colour keys: not assigned
12	⌂	Home: shows Activities
13	**Menu**	Enter menu for all system setups
14	**Ch**	Not assigned
14	**Pg**	Not assigned
15	⮌	Not assigned

You will find help for setting up your Logitech Harmony Ultimate One on the internet on Logitech's webpage:

www.logitech.com/support/harmony-ultimate-one

http://support.myharmony.com/en/article.htm?faqid=s-a-2166

Download the user manual from here:

http://cdn-www.myharmony.com/files/harmonyultimateone-usermanual-en.pdf

7.2 Using the touch screen

Tap on the Symbol above the touch screen of your Harmony Ultimate One to get a list of all your Activities. Tap now on the symbol on the lower right and then on the key **Devices**. The screen will give you a list of all programmed devices to be controlled by your *Harmony Ultimate One*. Scroll through the list with an up or down wipe and press then the key **EPC** in order to control your EPC with the *Harmony Ultimate One*. The **Device** mode gives you access to all remote control commands your EPC understands. The following will discuss these commands in detail.

Important

- During everyday use, you should never need to use the Device Mode of your Harmony Ultimate One, but control the EPC (and other devices of your audio setup) by customizing your **Activities**. For detailed information on how to customize and use **Activities** on your *Harmony Ultimate One* please consult the separate user manual for *Harmony Ultimate One*.

Key	Function
123	Opens the numeric key pad for selecting the desired input channel directly.
Power Toggle	Switches the unit on or off
Power On	Switches of the unit on
Power Off	Switches the unit off
Dim Display	Jumps directly to the setup menu item **Set Dim Level** (see section '*Set Dim Level*' on page 29).
Set Cap	Jumps directly to the setup menu item **SET CAPACITANCE** (see section '*Set Capacitance*' on page 27).
Set Gain	Jumps directly to the setup menu item **SET GAIN** (see section '*Set Gain*' on page 29).
Set Res	Jumps directly to the setup menu item **SET RESISTANCE** (see section '*Set Resistance*' on page 27).

Important

- **The Power key Off is only available for Activities. In Device Mode the Power key has no function.**

- **Even without using an Activity, the user is able to control all functions of the EPC using the *Harmony Ultimate One* in Device Mode.**
- **The keys described below to control the EPC refer to the factory default programming of the Audionet System Remote Control *Harmony Ultimate One*. Understandably, any changes done to this setup by the user cannot be discussed here.**

Tip

- In order to switch the EPCC on/off, without using an Activity, please use the keys **Power On**, **Power Off** or **Power Toggle** on the touch screen. Of course, it is possible to control the EPC without any Activity, but to tap the full potential of the *Harmony Ultimate One* you need to configure Activities customized to your needs (please refer to separate manual of the remote control *Harmony Ultimate One*).

Note

- Please read the separate user manual to your Audionet System Remote Control *Harmony Ultimate One*. Activities, Devices and Device Mode as well as customizing the remote control are discussed there. The user manual to the Audionet system remote control *Harmony Ultimate One* is available for download here:
  http://cdn-www.myharmony.com/files/harmonyultimateone-usermanual-en.pdf

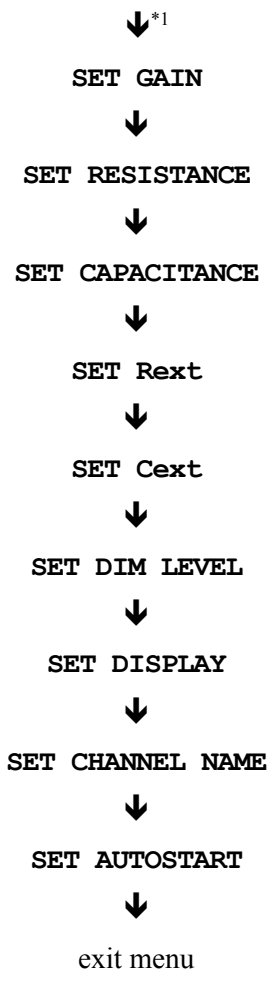
8 Setup menu

To adjust the EPC and PAM G2 to your preferences, please use the setup menu.

Push the **set** key on the front panel of the EPC for less than two seconds to go to the first item of the setup menu. Navigate to the next menu item, by pushing the **set** key again for less than two seconds. Below is a list of all menu items of the setup menu.

After the last menu item you will leave the setup menu automatically. Of course, you may leave the setup menu from each menu item by holding the **set** key down for longer than two seconds. The EPC will return to the normal operating mode.

The order of items in the setup menu is:



Change any setting of a menu item by using the keys **up** and **down** on the front panel.

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*1 ↓ = push **set** key shortly (less than two seconds)

Tip

- All settings of the setup menu can be dealt with by using the keys of the front panel. However, if you prefer to change settings from the comfort of your listening chair, please use the Audionet System Remote Control *Harmony Ultimate One*. For more information about the remote control and its usage see section '*Audionet System Remote Control*' on page 21.

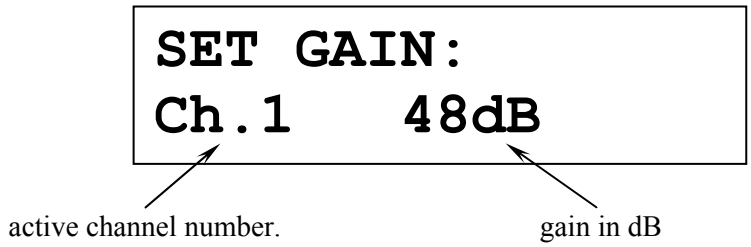
Note

- If you make no adjustments for longer than 12 seconds the EPC will automatically leave the setup menu and return to normal operating mode.
- While you are in the setup menu the display brightness is set to 100% for better readability. After leaving the setup menu the display brightness is automatically reset to its user selected level.
- If you power down the EPC to stand-by mode all settings are stored automatically in the non-volatile memory of the unit. Even after disconnecting from mains the EPC will still remember your settings.

In the following all options of the setup menu are explained in detail.

8.1 Set Gain

Push the **set** key on the front panel once for less than two seconds to select the gain of the connected PAM G2's active channel using the keys **up** and **down**. You can choose between the supported gain values of the PAM G2: 38 dB, 48 dB, 58 dB or 68 dB. The display shows the number of the currently active input channel and the selected gain value.



Important

- Excessive gain could lead to overdrive and distortion!

Set the gain so that the output voltage of the PAM G2 U_{PAMG2} is approx. 1...1.5 V. With a given pick-up voltage $U_{pick\text{-}up}$ the gain calculates to:

$$\frac{U_{PAMG2}}{U_{pickup}} = gain\ .$$

Refer to the following table to get the gain in dB from the calculated gain factor:

Gain in dB	38	48	58	68
Gain factor	80	250	800	2500

Example:

Output voltage: $U_{PAMG2} = 1.2$ V

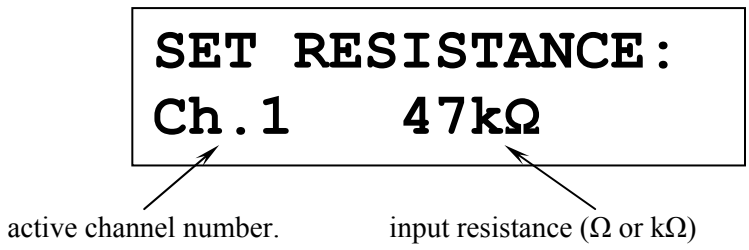
Pick-up voltage: $U_{pick\text{-}up} = 1.5$ mV

Gain: $\frac{1.2V}{1.5mV} = 800 \Rightarrow$ set the PAM G2 to 58 dB

8.2 Set Resistance

Push the **set** key on the front panel twice for less than two seconds to select the input resistance of the connected PAM G2's active channel. Now use keys **up** and **down** to adjust the input resistance. You can choose between the following values: 100 Ω, 150 Ω, 470 Ω, 1 kΩ, 23 kΩ, 47 kΩ and 69 kΩ.

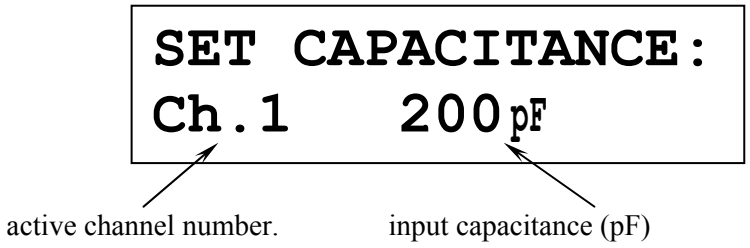
For typical resistance values of miscellaneous pick-up see section '*Typical setups*' on page 34.



8.3 Set Capacitance

Push the **set** key on the front panel three times for less than two seconds to select the input capacitance of the connected PAM G2's active channel. Now use keys **up** and **down** to adjust the input capacitance You can choose between the following values: 100 pF, 150 pF, 320pF and 420 pF.

This setting is critical for MM systems only. For MC pick-up systems the input capacitance should be set to 100 pF.

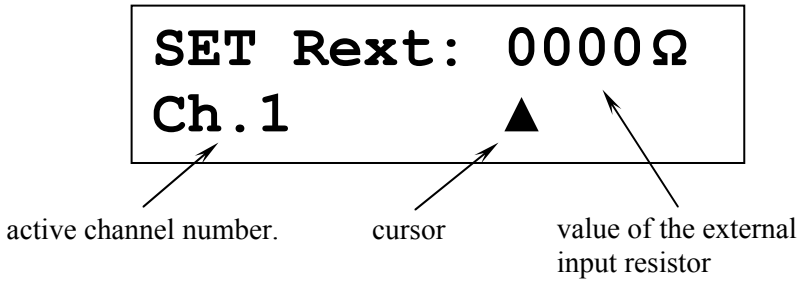


8.4 External input resistance (Set Rext)

If fine adjustments of the input resistance via the parallel RCA ports 19 or 20 on the back panel of the PAM G2 are made (see section '*Further adjustments*' on page 34), you can enter the value of the external resistor in the EPC setup. In normal operation mode the resulting input resistance is calculated and shown in the display. Push the **set** key on the front panel four times for less than two seconds to enter the value of the external resistor.

The display shows the number of the connected PAM G2's active channel and the current value of the external input resistor. A cursor points to the editable character of the resistance value.

Use the keys **up** and **down** on the front panel to select the desired character. Hold **set** key down for longer than two seconds to move the cursor one step to the right. After the last position the cursor wraps around and starts at the first position again.



Note

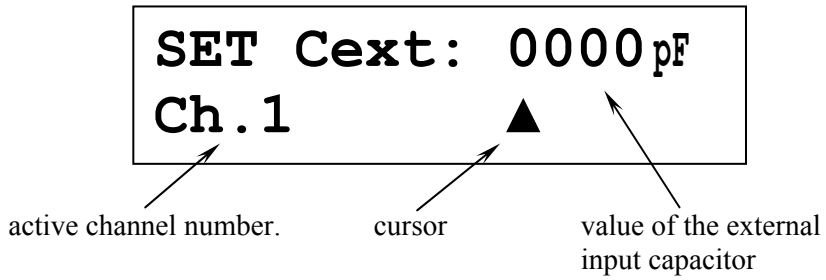
- At the last character the keys **up** and **down** switch only between the two options Ohm (Ω) and Kiloohm (kΩ).

8.5 External input capacitance (Set Cext)

If fine adjustments of the input capacitance via the parallel RCA ports 19 or 20 on the back panel of the PAM G2 (see section "*Further adjustments*" on page 34) are made, you can enter the value of the external capacitor in the EPC setup. In normal operation mode the resulting input capacitance is calculated and shown in the display. Push the **set** key on the front panel four times for less than two seconds to enter the value of the external capacitor.

The display shows the number of the connected PAM G2's active channel and the current value of the external input capacitor. A cursor points to the editable character of the capacitance value.

Use the keys **up** and **down** on the front panel to select the desired character. Hold **set** key down for longer than two seconds to move the cursor one step to the right. After the last position the cursor wraps around and starts at the first position again.



Use the keys **up** and **down** on the front panel to select the desired character. Hold **set** key down for longer than two seconds to move the cursor one step to the right. After the last position the cursor wraps around and starts at the first position again.

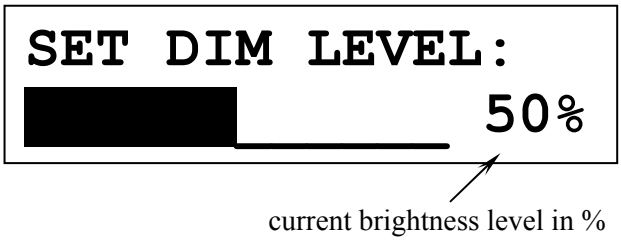
Note

- The capacitance range is limited to picofarad (pF) and can not be changed.

8.6 Set Dim Level

To adjust the brightness of the display on the front panel of the EPC push the **set** key five times less than two seconds.

Now use keys **up** and **down** to select the desired brightness. Key **up** increases, key **down** decreases the brightness.



Additionally, the display shows the current brightness level in percent and by a bar of corresponding length:

Important

- **Long-term usage of the display set to maximum brightness (setting 100%) may cause extended signs of wear resulting in a decay of contrast or brightness of individual dots in the display. Do not use the display with a brightness set higher than the factory default of 50% over a longer period of time!**

Note

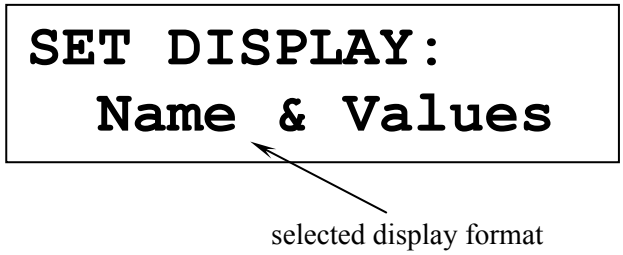
- Is the brightness set to **`Off`** the display is only on during setup adjustments or input selection. It switches off automatically several seconds after the last user entry.
- The EPC activates the 'display saver' automatically after 10 minutes without any user entry.
- During active 'display saver', the display shows only the number and the name of the currently selected input channel. The display brightness is always reduced to 25%, and the location of the information text will change randomly every 12 seconds to prevent any 'burn-in' effect of the display.
- The 'display saver' is de-activated and the display returns to its normal mode as soon as any user entry is detected
- The user cannot switch off the automatic 'display saver' function!

Tip

- Get to the option **`Set Dim Level`** at anytime using the key **Dim Display** on screen page 1 of the Audionet System Remote Control *Harmony Ultimate One* (see section '***Audionet System Remote Control***' on page 21). Use keys **Vol-** and **Vol+** to select desired brightness.

8.7 Set Display

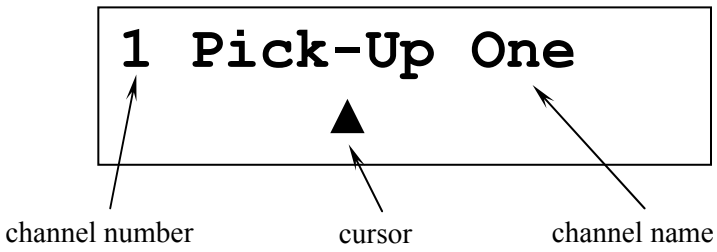
Push the **set** key seven times for less than two seconds, to select the display format. Now use keys **up** and **down** to switch between the three available formats (see section '*Display*' on page 19).



8.8 Channel name

You can assign a fully user-definable name up to 14 characters in length to each of the two input channels of the connected PAM G2. Push the **set** key on the front panel eight times. The display will then show the number of the currently selected input channel and the assigned channel name. The cursor in the display marks the character you now may alter.

Use the keys **up** and **down** on the front panel to select the desired character. Hold **set** key down for longer than two seconds to move the cursor one step to the right. After the last position the cursor wraps around and starts at the first position again.



8.9 Set Autostart

Push the **set** key nine times for less than two seconds to get to the option Autostart.

Push the **up** key on the front panel to activate the Autostart function. If you like to deactivate the Autostart function push **down** key.

state of the Autostart function

disabled The Autostart function is disabled. After switching on the mains switch [1] on the back panel, the EPC enters the stand-by mode. You have to use the **power** key on the front panel of EPC / PAM G2 or keys **Power On** or **Power Toggle** on the Audionet System Remote Control *Harmony Ultimate One* to switch on the unit into normal operating mode*).

active The Autostart function is active. As soon as you connect the EPC to mains (i.e. use the mains switch [1] on the back panel) the unit starts up automatically to normal operating mode. Use this setting for timer controlled operations.

*) or switched on/off by Activities on the Audionet System Remote Control; see separate user's manual *Harmony Ultimate One*

9 Matching the pick-up's electrical characteristic

Tip

- On our website www.audionet.de you will find an online tool to calculate the optimum settings of the PAM G2 for your pick-up.
- If you have the specifications of your pick-up not available, you will probably find the technical data at the following website: www.vinylengine.com/cartridge_database.php.

9.1.1 MM Systems

For MM pick-up systems set the gain to 38 dB. For the settings of input resistance and capacitance please refer to the recommendations of the manufacturer of your pick-up.

In case you have no recommendations from the manufacturer for input resistance and capacitance we recommend the values 47 kΩ and 200 pF. These settings offer suitable conditions for most MM pick-up systems.

9.1.2 MC Systems

MC pick-up systems cover a great range of different output levels. To achieve an output matching the level of your other sources, the PAM G2 offers 4 gain settings:

For pick-ups with a 'normal' output level (approx. 1...2 mV output voltage) set the gain to 58 dB. For high output pick-ups (3...5 mV) a setting of 48 dB is better suited. In case you have a low output pick-up (<0.8 mV) set the gain to 68 dB. In case of doubt assume your pick-up working at a 'normal' output level.

For MC pick-up systems the input capacitance should be set to 100 pF. Select the input resistance recommended by the manufacturer or, if the information is not available, select the 100 Ω setting.

9.1.3 Typical setups

The following table outlines typical setups for miscellaneous pick-up systems:

System	Output voltage	Gain	Input resistance	Input capacitance
Low Output MC	< 0.6 mV	68 dB	100 Ω	110 pF
MC High Output MC	~ 1...2 mV ~ 3...5 mV	58 dB 48 dB	100...470 Ω	110 pF
MM	~ 4...6 mV	48 dB	47...68 kΩ	160...220 pF
High Output MM	> 6 mV	38 dB	47...68 kΩ	160...220 pF

Important

- **For optimum adjustment to your pick-up follow the recommendations of the manufacturer!** If necessary ask your dealer.

9.2 Factory defaults

Upon delivery of the PAM G2 to following settings are configured by default:

Gain	38 dB
Input resistance	47 kΩ
Input capacitance	200 pF

This configuration is suitable for most MM pick-up systems.

9.3 Further adjustments

9.3.1 Adjusting the input capacity

If the selectable capacity of $C_0 = 420$ pF is not enough or the required capacity can not be selected, use an external capacitor to get the required value. Connect an additional high quality capacitor C_{ext} to the input **C/R EXT.** 15 and 16 using a RCA plug to increase the input capacity. In this case the capacities are added together.

Example:

If a capacity of C = 500 pF is needed, select the base capacity of C_0 = 420 pF. Then add an additional capacitor of $C_{EXT.}$ = 82 pF to the input **C/R EXT.** 15 or 16 to get the required input capacity of 500 pF.

Note

In the above example the arithmetically resulting value of 80 pF was replaced with the suitable capacitor of 82 pF from commonly available standard E12 series.

9.3.2 Resistance reduction

If the required input resistance is less than the minimum selectable base resistance of R_0 = 100 Ω or the needed resistance value is not available, use an external resistor to get the required value. Connect an additional high quality resistor R_{ext} to the input **C/R EXT.** 15 and 16 using a RCA plug to reduce the input resistance. Attention! The reciprocal values of the resistors are added, so the input resistance is reduced!

$$R = \frac{R_0 * R_{ext}}{R_0 + R_{ext}} \Rightarrow R_{ext} = \frac{1}{\frac{1}{R} - \frac{1}{R_0}}$$

Example 1:

If a resistance of R = 33 Ω is needed; choose the base resistance to R_0 = 100 Ω, and add external resistor of $\mathbf{R}_{ext}$ = 50 Ω.

$$R_{ext} = \frac{1}{\frac{1}{33} - \frac{1}{100}} \Omega = 50\,\Omega$$

Example 2:

If a resistance of R = 200 Ω is needed; choose the base resistance to R_0 = 330 Ω, and add external resistor of $\mathbf{R}_{ext}$ = 510 Ω.

$$R_{ext} = \frac{1}{\frac{1}{200} - \frac{1}{330}} \Omega = 510\,\Omega$$

10 Security advice

Important

- Avoid packaging material, especially plastic bags, coming into children's hands!

- Store and operate the unit in a dry room at a reasonable room temperature only!

- Avoid moisture, any liquids, dirt or small objects getting into the unit!

- Set up the unit in a sufficiently ventilated environment!

- Do not cover the unit!

- Do not open the unit. Unauthorised opening will void warranty!

- Do not short-circuit the outputs!

- During connecting or removing the PAM G2 to/from sources and/or power amplifiers all units have to be switched off to prevent damage of the PAM G2 or any of the other connected units.

♦ Use dry cloth for cleaning!

♦ Do not place the EPC directly under/above or to the left of the PAM G2! Otherwise the transformers in the EPC might induce humming into the signal path of the PAM G2.

11 Technical data

11.1 Technical data - PAM G2

Function	phono preamplifier
Frequency response	40 – 30.000 Hz (+/- 0.2dB) 18 – 80.000 Hz (+/- 1.0dB)
Subsonic filter	4nd order high pass fg = 8 Hz
Gain	38 dB, 48 dB, 58 dB, 68 dB (@ 1 kHz)
SNR	< -103 dB @ 1 kHz (Gain = 38 dB) < -83 dB @ 1 kHz (Gain = 58 dB)
Inputs	2 pair WBT RCA jacks, gold plated 2 pair WBT RCA jacks, gold plated, for additional impedance adjustment
Input impedance	selectable by EPC
Output	1 pair WBT-NextGen line, gold plated 1 pair XLR (Neutrik) , gold plated
Output impedance	24 Ohm real (RCA) 94 Ohm real (XLR)
Mains	230 V, 50..60 Hz
Power consumption	Stand-by < 0.5W, max. 40 Watt
Dimensions	Width: 430 mm Height: 70 mm Depth: 310 mm
Weight	9 kg
Finish	**Front**: : brushed aluminium, black anodised, white print or aluminium 'nature', anodised, black print **Top cover**: brushed aluminium, black anodised **Chassis**: steel, black coated, 2 mm
Features	- individual adjustment to any pick-up without opening - active dual stage RIAA de-emphasis - no integrated operational amplifiers or capacities in signal path - 14 fast, purely discrete realized MOS voltage regulators providing accumulator-like characteristics of power supply - Class A output stage

	- 100 VA toroid transformer, shielded, 40.000 µF capacity - DC-free outputs - FET inputs, no bias current

Errors and omissions excepted. Specifications and design are subject to changes without prior notice.

11.2 Technical data - EPC

Type	ultra low noise, highly stable and constant power supply and controller for Audionet PAM G2
Power supply	two encapsulated 100VA toroidal transformers and 260.000 µF capacity
Circuitry	reference voltage sources for pos. and neg. analog voltages using discrete Audionet voltage regulators (MOS)
Connections	7-pin socket for connecting the PAMG2 2 D-Sub 25 (Phone Control Bus) 2 Audionet Link, optical (TosLink)
Output voltage	±24.00 V for analog sections, approx. +5V for digital and control sections
Stability	±0,01 V at 0,5 A
Noise	-144 dB or 1,5 μV_{eff} at 0 Hz to 22 kHz
Mains	220 V…240 V, 50…60 Hz
Power consumption	Stand-by < 0,5W, max. 50 Watt
Dimensions	Width: 430 mm Height: 70 mm Depth: 310 mm
Weight	9 kg
Finish	**Front**: : brushed aluminium, black anodised, white print or aluminium 'nature', anodised, black print **Top cover**: brushed aluminium, black anodised **Chassis**: steel, black coated, 2 mm

Errors and omissions excepted. Specifications and design are subject to changes without prior notice.

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